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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,566	09/22/2003	Katsufumi Ohmuro	0941.68342	9999

7590 10/05/2005
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EXAMINER

PARKER, KENNETH

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,566

Applicant(s)

OHMURO ET AL.

Examiner

Kenneth A. Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 and 29 is/are allowed.
- 6) ☒ Claim(s) 30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shim 6181402 in view of Wu SID '95 or Winker et al 6320634. This reference indicates a device as claimed (see figure 13) a first substrate and a second substrate sandwiching a liquid crystal layer

A liquid crystal display device, comprising:

therebetween, first pointing direction generally perpendicular to said first and second substrates in a non- activated state in which no electric field is applied to said liquid crystal layer (see figure 3a);

a first polarizer 60 disposed adjacent to said first substrate 10 at a side opposite to a side of said first substrate facing said liquid crystal layer;

a second polarizer 50 disposed adjacent to said second substrate 10 at a side opposite

to a side of said second substrate facing said liquid crystal layer',

an optically biaxial retardation film disposed in at least one of a first gap formed between said first substrate and said first polarizer and a second gap formed between said second substrate and said second polarizer (biaxial is listed – column 8, lines 25-40);

a first electrode 90 provided on said first substrate, and
a second electrode 03 provided on said second substrate,
said first electrode and said second electrode forming an electric field acting there between in a direction oblique to said liquid crystal layer in an activated state in which a driving voltage is applied across said first and second electrodes, such that said liquid crystal molecules change a pointing direction thereof from said first pointing direction toward a second pointing direction parallel to said first and second substrates (see figs 3a and 3b), said liquid crystal display device changing a state thereof from said non- activated state to said activated state by causing a change in a direction of said liquid crystal molecules from said first pointing direction to said second

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pointing direction in response to said electric field formed between said first and second electrodes (see figs 3a and 3b) and

said optically biaxial retardation film having a first refractive index in a direction perpendicular to said liquid crystal layer and second and third refractive indices in a plane parallel to said liquid crystal layer such that said first refractive index is smaller than both said second refractive index and said third refractive index (a negative biaxial plate). The negative birefringent plate is disclosed, however it is disclosed as a negative uniaxial plate (column 8, lines 9-42). However, uniaxial and weakly biaxial were considered functionally equivalent alternative, as weakly biaxial were commonly referred to as uniaxial. This is evidenced by Winker et al which indicates that a negative birefringent plate (the o-plate) can be weakly biaxial (see abstract). Therefore one of ordinary skill would have found reason, motivation and suggestion to modify the disclosure of the reference to employ weakly biaxial (around less than 10nm in plane retardation) as were considered to be functionally equivalent alternatives to uniaxial, and which were in fact often discussed as uniaxial. Further, Wu discloses a weakly biaxial film which Wu reviews with vertically aligned devices, and which Wu indicates enables good viewing angle properties (2nd to last paragraph, pg 558). Therefore one of ordinary skill would have found reason, motivation and suggestion to employ the weakly birefringent film of Wu for the benefit indicated above.

Regarding claim 31, the reference shows the second electrode is located between two of said first electrodes when viewed in a direction perpendicular to said first and second substrates.

Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soref "Field effects in nematic liquid crystal", Kobayashi et al 3883227, Tomoya JP06-222397, Hitsatake JP 08-043861 in view of Wu and Yeh 5196953.

Each primary reference shows a liquid crystal which is either indicating as positive and responding to a transverse field, or shows a liquid crystal that must be positive as it responds to a transverse field with a homeotropic initial state. See Soref figure A and B which show the liquid crystal orientations as claimed, the electrode structure as claimed and the function as claimed, Kobayashi et al cover figures, which show the liquid crystal orientations as claimed, the electrode structure as claimed and the function as claimed, and Regarding Tomoya, figure 4,5 and 6 show the which show the liquid crystal orientations as claimed, the electrode structure as claimed and the function as claimed. Each reference shows or inherently has the polarizer, as they were required for operation. Lacking it the presence of a compensator plate. The it was well known to use negative compensators for primarily for improving the viewing properties, but also for enabling a high contrast and brightness guest host LCD, and secondary references clearly establishing these as facts in the record are cited. References show the use of compensators for Homeotropic devices (the instant devices are homeotropic), with Yeh indicating that the compensators they disclose are valuable with any device having a homeotropic state (evidencing that negative compensators such used by Yeh are applicable to any homeotropic devices, which the primary references are. Wu teaches a particular weakly biaxial negative compensator, which Wu teaches

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enables outstanding properties (page 558, second to last paragraph. Therefore one of ordinary skill would have found reason, motivation and suggestion to modify the device of any of the primary reference to employ the compensators of Wu for the benefit listed above, and Yeh provides evidence that one of ordinary skill would have recognized the applicability of the compensator of Wu.

Regarding claim 31, the reference shows the second electrode is located between two of said first electrodes when viewed in a direction perpendicular to said first and second substrates.

Allowable Subject Matter

Claims 28-29 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

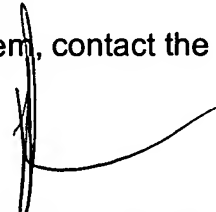
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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 571-272-2298. The examiner can normally be reached on M-F 10:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth A Parker
Primary Examiner
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